

The impact of residential respite care on the behavior of older people

Christine C. Neville and Gerard J. A. Byrne

Authors:

Dr Christine C. Neville
RN RPN PhD FANZCMHN
Senior Lecturer, Department of Nursing
University of Southern Queensland
Toowoomba, Australia

Dr Gerard J. A. Byrne
BSc(Med) MBBS PhD FRANZCP
Associate Professor, School of Medicine, University of Queensland
Director of Geriatric Psychiatry, Royal Brisbane & Women's Hospital
Brisbane, Australia

Correspondence:

Dr Christine Neville
Department of Nursing
University of Southern Queensland
West St
Toowoomba, Queensland 4350 AUSTRALIA

Telephone: +61 7 4631 1497
Facsimile: +61 7 4631 2721
e-mail: nevillec@usq.edu.au

Received: 06 Dec 2004
Revision requested: 07 Mar 2005
Revised version received: 05 May 2005
Accepted: 06 May 2005

Citation: Neville, Christine C. and Byrne, Gerard J. A. (2006) *The impact of residential respite care on the behavior of older people*. International Psychogeriatrics, 18 (1). pp. 163-170.
Accessed from USQ ePrints <http://eprints.usq.edu.au>

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Key Words: aged, dementia, nursing home, behavior, Dementia Behavior Disturbance Scale, nursing research

Number of Words: 2690 (including references)

ABSTRACT

Background: The aim of this study was to examine the impact of residential respite care on disruptive behavior displayed by older people, particularly those with dementia.

Methods: A quasi-experimental, repeated measures, single group design was employed. The participants were a consecutive series of 100 older people with a mean age of 81.8 years (range 66 – 96 years) who had been booked for a respite admission to one of several residential aged care facilities in a provincial Australian city. A diagnosis of dementia was reported for 29% of the sample. Disruptive behaviors were rated before and after the period of respite by home caregivers (N=100) and during the period of respite by nurses (N=25) using the Dementia Behavior Disturbance Scale (DBDS).

Results: Age, male gender and the presence of dementia were all significantly related to the frequency of reported disruptive behaviors. Residential respite care was associated with a significant reduction in the frequency of reported disruptive behaviors in older people (Wald $\chi^2 = 28.28$, $p < 0.0001$). However, this improvement in behavior did not persist into the post-respite period. The deteriorating behavioral trajectory that was evident prior to respite care continued following the period of respite care.

Conclusions: Residential respite care was associated with a temporary diminution in the frequency of reported disruptive behaviors in older people. This finding should be reassuring both for those family carers considering placing a loved one in residential respite care and for those health workers considering whether to recommend such a course of action.

INTRODUCTION

One option to support older people to remain at home in the care of their families is residential respite care, where the older person is provided with alternative, short-term care in a residential aged care facility while the older person and the home caregiver has a break (Australian Institute of Health and Welfare, 2002).

Disruptive behavior which may include such behaviors as aggression and wandering has been identified as the strongest predictor of carer burden and is often associated with admission for permanent placement to a residential aged care facility (Coen et al, 1997). Recently we found the 80% of a group of Australian residential respite recipients showed one or more disruptive behaviors, although these behaviors were not necessarily displayed all of the time (Neville & Byrne, 2002).

Following an exhaustive literature search, we were able to identify only five studies that used residential respite care as the intervention and disruptive behavior as the outcome variable (Burdz et al 1988; Seltzer et al 1988; Adler et al 1993; Hirsch et al 1993; Homer et al 1994). However, there was only one controlled trial (Burdz et al 1988) and overall these five small studies (mean sample size = 45.2) reported mixed results and provided quite limited evidence on the effect of respite. Accordingly, we sought to study in more detail the impact of residential respite care on the behavior of older people.

METHODS

Over a 12 month period, in a provincial Australian city, we approached a consecutive series of 186 people being admitted for residential respite care, and their home caregivers. Of these 182 potential participants 40 did not respond to the request to participate, 37 were not eligible or declined to give consent and 9 commenced the study but did not complete it. One hundred (54.9%) respite recipients and their home caregivers agreed to participate. These 100 participants had booked respite admissions to nine residential aged care facilities with a total of 456 beds. A small proportion beds (17; 3.7%) were designated for respite care. The participants were provided with the usual program of non-specific social and diversional activities available in the residential aged care facilities. Twenty-five nurses participated.

Baseline data obtained for each respite recipient included gender, age and a reported diagnosis of dementia. The frequency of disruptive behavior was rated on the Dementia Behavior Disturbance Scale (DBDS: Baumgarten et al 1990) by the home caregiver who had the most regular contact with the respite recipient and the primary nurse in the residential aged care facility. The DBDS was selected after a review of available disruptive behavior rating scales for older people (Neville & Byrne, 2001). Each of the 28 items on the DBDS was rated on a 5-point frequency scale ranging from 0 (never) to 4 (all the time). Scores may range from 0 to 112, with higher scores indicating greater behavioral disturbance. The scale has a high internal consistency ($\alpha = 0.84$), moderate test-retest reliability ($r_p = 0.71$) and moderate construct validity ($r_p = 0.73$) against the Behavioural and Mood Disturbance Scale (Baumgarten et al 1990). The reference period for the DBDS is the preceding week, which makes it suitable for

respite admissions. In a separate study (Neville & Byrne, 2002), the inter-rater reliability for the DBDS between nurses and home caregivers was found to be 0.93 ($p = 0.0002$), suggesting that the DBDS can be used reliably across these two classes of observers. The test-retest reliability was found to be good for nurses (0.94, $p < 0.001$) and moderately good for home caregivers (0.78, $p = 0.0024$).

A longitudinal design with repeated measures was used to examine changes in the same participants during an extended period of time. For the present analysis, data were collected on three occasions prior to the respite recipients entering the residential aged care facility (fortnightly, within two months of the booked admission), on one to four occasions during respite care (weekly, depending on the duration of respite care), and twice following respite care (at one month and three months post respite). Data were analyzed using Stata for Windows version 7.0 (Stata Corporation, 2003). A time series generalized estimating equation (GEE) approach was taken to multivariate regression analyses to allow for the maximum use of the available data and automatic imputation of missing data. This method also deals well with autocorrelation, a common problem with time series data.

RESULTS

Characteristics of respite recipients

Of the 100 respite recipients, 37 were male and 63 were female. The mean age of the respite recipients was 81.76 years ($SD = 7.00$, range = 66-96). Of the males, one was divorced, 25 were married, nine were widowed and two were single. Of the females, three were divorced, 16 were married, 41 were widowed and three were single. Eight males lived alone, 19 lived with their spouses and ten lived with other family, whereas 20 females lived alone, 16 with their spouses and 24 with other family. Prior to admission for respite care, 75 lived in their own home and 25 lived in someone else's home. A diagnosis of dementia was reported for 29 of the total sample.

Disruptive behavior at home and in respite

Inspection of the mean DBDS scores across time (Table 1) suggested reduced scores during respite care. Time series regression analysis using a GEE approach with mean DBDS score as the dependent variable and time as the independent variable confirmed significant differences in mean DBDS score across time (Wald $\chi^2 = 28.28$, $p < 0.0001$).

INSERT TABLE 1 HERE

To find the exact location of these significant differences in DBDS scores across time, a series of pairwise comparisons of DBDS scores by measurement time was used to determine if the frequency of disruptive behavior of respite recipients varied according to the caregiving situation (home versus residential respite care). The Tukey test was

employed to detect statistically significant differences. It can be seen in Table 2 that the mean DBDS score during the first week in residential respite care (Time 4) was less than the mean DBDS score at the last pre-respite assessment (Time 3; $t = 6.079, p < .001$). In addition, mean DBDS scores for the four weeks of residential respite care (Times 4, 5, 6, 7) were lower than both of the post-respite scores (Times 8, 9) (Time 4/Time 8: $t = -7.585, p < .001$; Time 5/Time 8: $t = -5.925, p < .001$; Time 6/Time 8: $t = -6.442, p < .001$; Time 7/Time 8: $t = -4.215, p < .001$; Time 4/Time 9: $t = -6.389, p < .001$; Time 5/Time 9: $t = -6.088, p < .001$; Time 6/Time 9: $t = -5.695, p < .001$; Time 7/Time 9: $t = -3.880, p < .002$). Thus, residential respite care was associated with a lower DBDS score at least during the first week in residential respite care than the DBDS score at the pre-respite data collection point. In addition, the four weeks of residential respite care were associated with lower DBDS scores than the two post-respite data collection points. These findings indicate that the mean frequency of disruptive behavior as measured on the DBDS varied according to whether or not the respite recipient was at home or in respite care. Disruptive behavior was reported less frequently during respite care than during home care. However, the deteriorating trajectory that was evident in the pre-respite phase continued in the post-respite phase.

INSERT TABLE 2 HERE

Characteristics of respite recipients and disruptive behavior

To explore characteristics of the respite recipients that might be related to disruptive behavior, a further time-series regression analysis was used. Mean DBDS score was the dependent variable and time, age, gender and the diagnosis of dementia were the independent variables (Table 3). Time and the presence of dementia strongly predicted

DBDS, whereas DBDS was somewhat less strongly predicted by male gender and younger age.

INSERT TABLE 3 HERE

DISCUSSION

The main finding from this study was that residential respite care was associated with a temporary reduction in the frequency of disruptive behavior in older people. However, respite had no enduring impact on behavior. There are several potential substantive and methodological explanations for this finding. It may be that altered environmental factors, including the physical environment and carer behavior, changed the behavioral contingencies operating on the respite recipients and this led to altered behavior. Experienced nursing staff may have employed superior behavioral interventions to those employed by home caregivers or they may have had greater tolerance of disruptive behaviors due to limited contact hours.

The findings from one previous study (Selzer et al, 1988) were marginally consistent with the findings of the present study. However, Selzer et al (1988) studied only 37 dementia patients admitted for two-weeks of respite and found that older people with severe dementia improved whereas those with mild dementia tended to worsen.

Chenitz (1983) found that older people seem to accept a residential aged care facility admission better when they view it as legitimate, voluntary, reversible, and controllable. In the present study, some of the older people would have been aware that their stay was not permanent. Smooth relocation adjustment may be dependent on the older person's understanding and some older people may also feel more secure, less lonely, more stimulated and liberated from obligation to family members when admitted to a

residential aged care facility admission (Reed & Roskell Payton, 1996). Such positive feelings may have led to the reduction in disruptive behaviors in this study.

Some limitations to the study should be noted. There were different raters when the respite recipient was at home and in the residential aged care facility. The home caregiver and the nurse most familiar with the respite recipient completed the DBDS throughout the study. Although we had previously shown good inter-rater reliability between these groups of raters, it remains possible that the nurses had a higher threshold than the home caregivers for rating disruptive behavior.

The study was not a randomized controlled trial because respite care is considered an essential health service in our community. In addition, some of the data collection processes relied on home caregiver and nurse reports and these were not verified objectively. Furthermore, the study was conducted in a provincial city and the findings may not generalize well to larger cities. In particular, our study sample was not ethnically diverse. Despite these limitations, this study used a longitudinal repeated measures design and a reasonably large sample size.

Much research has been conducted describing the transition to permanent care but very little on respite care. Since residential aged care facilities are experiencing more admissions for respite care, future research could focus on developing an accurate understanding of the adjustment experiences of older people to residential respite care.

The present study could be replicated with a larger and more diverse sample, including, for example, rural versus urban comparisons or the role of ethnicity.

CONCLUSION

In a prospective study of older people utilizing residential respite care we found that such care is associated with a significant, albeit temporary, reduction in the frequency of disruptive behavior. This finding should be reassuring both for those family carers considering placing a loved one in residential respite care and for those health workers considering whether to recommend such a course of action.

Acknowledgements

The authors wish to thank the respite care recipients, their home caregivers and the residential aged care facility nurses for participating in the study. The study was funded in part by the Department of Nursing, University of Southern Queensland.

Conflict of Interest

None identified.

Description of Author's Roles

This paper is the result of Neville's PhD study. Byrne was the academic supervisor. Formulating the research question, designing the study, analyzing the data and writing the article was a collaborative effort. Neville carried out the study.

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Table 1: Descriptive statistics for the DBDS

	Pre-respite at home			Respite period in the residential aged care facility				Post-respite at home	
Measurement Time	1	2	3	4	5	6	7	8	9
N*	100	100	100	100	90	64	34	100	58
Mean	16.72	18.04	19.11	12.36	13.52	12.50	10.85	20.53	21.16
SD	13.44	13.28	14.08	12.10	12.35	11.67	9.40	14.26	16.06
Min	0	0	0	0	0	0	0	0	0
Max	52	52	54	52	48	46	43	58	69

*N changes during respite care due to the fact that the average duration for residential respite care was 2.68 weeks.

Table 2: Pairwise comparisons of DBDS mean scores by measurement time

DBDS Mean Measurement Time	16.72 1	18.04 2	19.11 3	12.36 4	13.52 5	12.5 6	10.85 7	20.53 8
18.04	1.31							
2	6.1221							
19.11	2.38	1.07						
3	6.1221	6.1221						
12.36	-4.37	-5.68	-6.75*					
4	6.1221	6.1221	6.1221					
13.52	-3.2078	-4.5178	-5.5878	1.1622				
5	6.2898	6.2898	6.2898	6.2898				
12.5	-4.23	-5.54	-6.61	.14	-1.0222			
6	6.9297	6.9297	6.9297	6.9297	7.0784			
10.85	-5.8771	-7.1817	-8.2571	-1.5071	-2.6693	-1.6471		
7	8.594	8.594	8.594	8.594	8.7143	9.1869		
20.53	3.8	2.49	1.42	8.17*	7.0078*	8.03*	9.6771*	
8	6.1221	6.1221	6.1221	6.1221	6.2898	6.9297	8.594	
21.16	4.4252	3.1152	2.0452	8.7952*	7.633*	8.6552*	10.302*	.62517
9	7.1449	7.1449	7.1449	7.1449	7.2892	7.848	9.3503	7.1449

The pairwise comparison calculation (row mean – column mean) is significant if it is greater than the critical difference for the measurement time which is recorded directly beneath the pairwise comparison calculation.
(*significant results)

Table 3: Respite recipient characteristics and DBDS (time-series regression)

Variable	Coef.	Std. Err.	z	P > z	[95% Conf. Interval]	
Age	-.287479	.128328	-2.24	0.025	-.538997	-.035961
Gender	-4.74704	1.87826	-2.53	0.011	-8.42835	-1.06573
Dementia	17.7258	2.00031	8.86	0.000	13.8053	21.6463
Time	.381888	.068899	5.54	0.000	.246848	.516928